

# Teaching Office Database Developers Guide

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# 1 Useful Tools for Developing TODB

Please refer to the Installation Guide for help on your Apache/MySQL/PHP installation.

## 1.1 Editing PHP

Beside using a text editor, you may find HTML-Kit <http://www.htmlkit.com/> useful. If you are familiar with the Eclipse IDE you may wish to use a version of this configured for PHP <http://www.eclipse.org/pdt/>.

Check the Apache error log file for help pin-pointing PHP errors. You should take care not to use an editor such as Notepad on Windows that might introduce ^Ms at the end of lines. (See Troubleshooting section in Installation Guide for more help on this).

## 1.2 Working with MySQL

MySQL Query Browser provides a useful interface for working with the database. This seems to have been replaced by the SQL Development feature of MySQL workbench 5.2 <http://dev.mysql.com/downloads/workbench/5.2.html>.

Do not use Notepad (Wordpad is OK) for editing scripts as it adds spurious escape characters.

## 1.3 Other Web Development Tools

### 1.3.1 Linux commands for Windows

You may wish to download and install 'UnxUtils' (<http://unxutils.sourceforge.net/>) which provides many useful Unix/Linux commands for use on Windows. You will need to add to your system path; search for "Unxutils Installing" for more help.

### 1.3.2 Firebug and Web Developer

Firebug <https://addons.mozilla.org/en-US/firefox/addon/1843> is an add on for Firefox web-browser that let's you view and edit CSS, HTML and Javascript in a web page. Web Developer <https://addons.mozilla.org/en-US/firefox/addon/60> compliments the use of Firebug with an extension menu and toolbar. These are of particular use should you need to debug the pop-up box used when editing.

## 1.4 Browsers

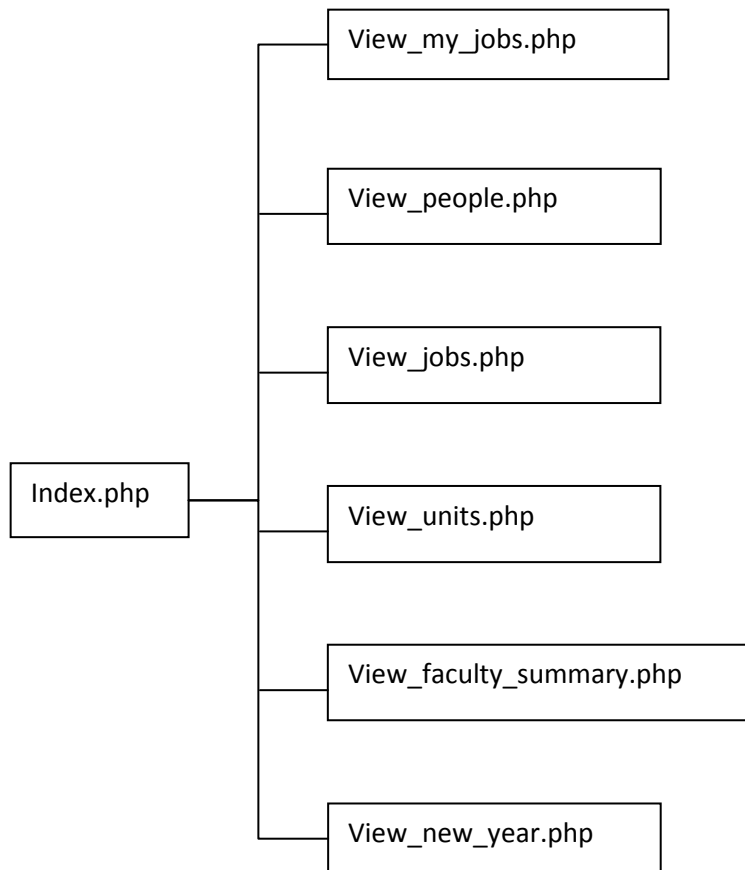
You should make sure that changes to TODB, especially involving the pop-up box, are tested with the different browsers that your users may be using. Please refer to the Troubleshooting Guide in the Installation Document for help with some potential issues.

## 2 Pages in the TODB

### 2.1 Introduction

Each page on the TODB effectively represents an application or operation in the TODB. Each application or operation could be:

- A Report (e.g. view\_faculty\_summary.php)
- A facility for viewing and editing a table (e.g. view\_people.php, view\_jobs.php, view\_units.php)
- A facility for performing an administrative operation (e.g. view\_new\_year.php)
- A combination of these (e.g. view\_ujobs.php, a Cambridge University Engineering Department-specific report that supports editing of records).



Also available may be: view\_timetable.php, view\_student\_counts.php, view\_points\_fomulae.php, view\_ujobs.php

Figure 2-1 Hierarchy of TODB pages

## ***2.2 Page Conventions***

### *2.2.1 Page Language*

The pages are written in PHP. Formatting is via CSS. The general principle is keep the code and operation of the system as simple as possible.

### *2.2.2 Database*

Data storage is provided by a MySQL database; connection details are clearly defined in `dbconnect.inc` and `config/db.inc`. The variables `$dbread` and `$dbwrite` provide read and write access to the database. `$db_metadata` provides access to the MySQL `information_schema` for accessing table properties. These variables become available if `config/db.inc` is included in the page.

### *2.2.3 Table Locking*

A slightly crude locking system has been developed. This uses a table `Editlocks_<year>` which holds locks for Jobs, People and Units for each year. The user id is inserted in the lock table and a lock flag set when someone successfully selects edit mode. If the lock is not available (someone else is updating this data) they are told and a lock is not taken out. There is an option to override an existing lock when the lock flag will be unset, the user then needs to click on the 'Edit' button again to take out their own lock. The lock flag is unset when the user clicks on 'Finish Edit'.

### *2.2.4 Admin, Flux and Ordinary users*

Admin users are defined in `config/config.inc` and are allowed to edit data. Flux users can view but not change data; they can view data even if it has been marked as 'in flux'. Ordinary users can only view data, and only that not marked as in flux. Apache must be configured to allow users access to the system.

### *2.2.5 Edit Mode*

It is understood, in general, that in order to change data, it is necessary to click on the Edit button provided in `common2.inc` to go into 'Edit Mode'.

### *2.2.6 CSV Mode*

This is used to specify whether output should be to an on screen table (`$csvmode = 0`) or as a Comma Separated Variable list that can be read by Excel (`$csvmode = 2`). As far as this developer can tell, `$csvmode = 1` is an old setting that is no longer used.

## ***2.3 Creating a New TODB Page***

A lot of code has already been written for facilitating easier, faster and more consistent development of new TODB features.

### ***2.3.1 Basic Page Template***

The following constitutes a basic page template and is explained more fully in the next section:

```
<?php

require('config/config.inc');
require('config/db.inc');
require('useful.inc');
require('config/years.inc');
require('auth.inc');
require('config/jobs.inc');
require('config/people.inc');
require('locks.inc');

require('common1.inc');
require('config/header.inc');
require('config/top.inc');

$tablename = '?????';
require('common2.inc');

// content goes here

require('config/footer.inc');

?>
```

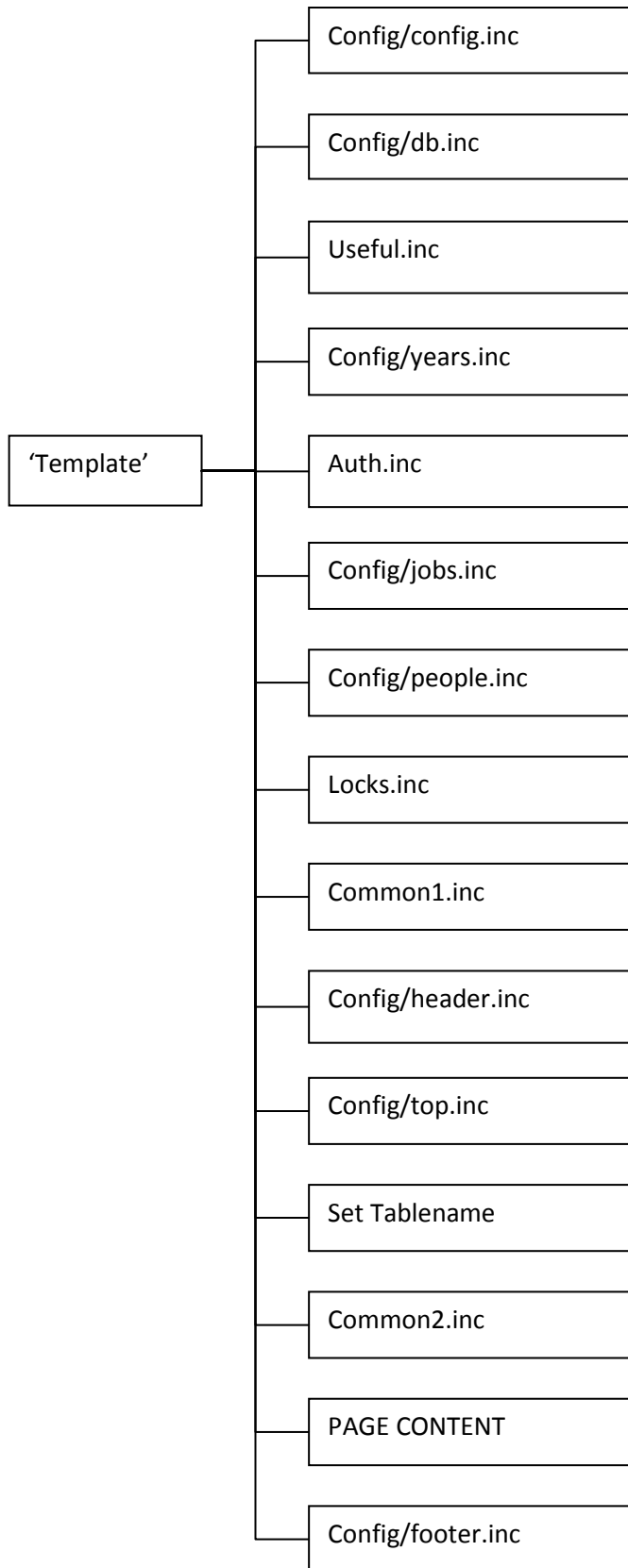


Figure 2-2 TODB 'Template' code

### 2.3.2 Outline Functionality

| File              | Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Config/config.inc | Setups the following :<br>Admin, Flux and Demo user arrays<br>Email Address<br>Text fields for Screen<br>Divisions array<br>Jobs Filtering arrays<br>CSV directory locations<br>Points calculator settings<br>Applications accessible by Generic Operations<br>Location of any generated list of all allowed users                                                                                                                                                                                                  |
| Config/db.inc     | Sets up the database connection information (db username and password).                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Useful.inc        | Various Functions: see 6.1.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| config/years.inc  | Get years information from db.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| auth.inc          | Authenticate user and see if they are 'special'                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| config/jobs.inc   | Controls columns and display order for jobs                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| config/people.inc | Controls columns for people                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| locks.inc         | Locking functions:<br>getLock ()<br>releaseLock()<br>checkLock()                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| common1.inc       | Go HOME if required<br>Find out which year we are dealing with<br>Check demo and flux users are following rules<br>See if we are Editing and set/unset locks appropriately<br><i>CLIENT: Successful clicking of the Edit button uses Javascript to put table into selection mode and generate pop-up box for editing when a line is selected.</i><br>If Add/Update:<br>UPDATE database if Id exists (unless duplicate required)<br>ADD if new Id or duplicate<br>If PurgeDeleted:<br>DELETE those marked as deleted |
| config/header.inc | <START OF THE OUTPUT PROCESS><br>CSS Style settings                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| config/top.inc    | Header banner for the page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Set \$tablename   | People/Faculty_summary etc - controls which table type is displayed                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| common2.inc       | Generate the line with the HOME button with appropriate Edit button                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|                   |                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Content           | <p>Generate any filtering buttons</p> <p>Handle POSTs appropriately – e.g. Filter, CSV button</p> <p>Form the SQL Query depending on criteria from POSTs</p> <p>Display the Table:</p> <p style="padding-left: 40px;">Do the SQL Query</p> <p style="padding-left: 40px;">&lt;table&gt;_Table.inc Display the results using ShowGeneralTable()</p> |
| config/footer.inc | <p>Footer banner for the page</p> <p>&lt;END OF THE OUTPUT PROCESS&gt;</p>                                                                                                                                                                                                                                                                         |

### 3 Valid Years

Data in the TODB is organised by year; separate tables are held for each year. Available years on the system and their associated information are provided by the `valid_years` array. This is made available by including `years.inc`. This was previously 'hard-coded'. It has since been replaced with softer system which reads this information from the `config_years` table.

Valid years are created, edited and removed using the 'Admin: `modify years configurations`' link on the main page of the standard TODB site. This link is only visible to admin users. The link refers to the PHP page '`view_new_year.php`' which was originally used to create new years of data only. It now also allows the user to remove years, set flux years and current year.

| id | yearval | description     | notinflux | yearorder |
|----|---------|-----------------|-----------|-----------|
| 10 | 2009_10 | current_year    | 1         |           |
| 11 | 2008_09 | Oct 2008 - 2009 | 1         |           |
| 13 | 2009_10 | Oct 2009-2010   | 1         |           |
| 15 | 2006_07 | Oct 2006-2007   | 1         |           |
| 16 | 2007_08 | Oct 2007-2008   | 1         |           |
| 17 | 2010_11 | Oct 2010 - 2011 | 0         |           |

**Figure 3-1 Example Config Years data**

You will see from the above example that there is a double entry for the current year (2009-10) and (2010-11) is in flux.

The 'yearval' column is used to name the tables and identify year data to the system, (e.g. '2009\_10'). The longer 'description' (e.g. 'Oct 2009 to 2010') is used to more verbosely inform the user which year is under examination – e.g. in page headers.

## 4 Changing the Types displayed in the Faculty Summary View

Each job can have an activity type associated with it. This might be lecturing, examining, some form of administration (e.g. sitting on a committee), taking leave/sabbatical, conducting classes and seminars, and so on. These are also represented with letter codes, e.g. 'L', 'E', 'A', etc.

Types can be amended through the configuration file following a process set out in the Installation and Configuration Guide. Such changes are then automatically reflected in the view jobs facility which will add a new type to the list of type filters. To reflect a new type in the Faculty Summary view, small changes are needed in the PHP script for this view. Although the query is quite complex the changes needed are relatively simple provided you follow the symmetry.

The example below illustrates adding a column for a new Outreach type.

1. Edit `view_faculty_summary.php`,. Look for the following comment:

```
// COLUMNS TO DISPLAY
```

2. Immediately below this comment, add the new column(s) to the array which holds the tooltips for the display.

```
// Build an array to store the tooltips for each heading
$titles = array( 'Unique name of person',
                'Hours spent lecturing',
                'Hours spent in classes',
                'Hours spent in practicals',
                'Hours spent in web-based teaching',
                'TOTAL hours spent on Teaching (Lecturing, Classes,
Projects, Web-based)',
                'Sessions spent lecturing',
                'Sessions spent in classes',
                'Sessions spent in practicals',
                'Sessions spent in web-based teaching',
                'TOTAL sessions spent on Teaching (Lecturing, Classes,
Projects, Web-based)',
                'Count of Projects jobs',
                'Count of Examining jobs',
                'Count of Safety jobs',
                'Count of Administration jobs',
                'Count of Outreach jobs'
                );
```

3. Now add the new column(s) to the array which holds the column names for the display.

```
// This is the list of columns to select, as well as what will be used in
the order by section:
$select_order = array( 'Faculty'
,
'`Lectures (hrs)`',
'`Classes (hrs)`'
,
'`Practicals (hrs)`',
'`Web Teach. (hrs)`',
'`TOTAL Teaching (hrs)`'
,
'`Lectures (sessions)`',
'`Classes (sessions)`'
,
'`Practicals (sessions)`',
```

```
'`Web Teach. (sessions)`',
'`TOTAL Teaching (sessions)`' ,
'`Projects (count)`' ,
'`Examining (count)`' ,
'`Safety (count)`' ,
'`Admin (count)`',
'`Outreach (count)`'
);
```

4. Now add what these fields should contain which comes from a subquery (see 6).

```
// what to select?
$what_to_select = array('p.uname',
    'ifnull(round(subqueryL.hours, 1), 0)',
    'ifnull(round(subqueryC.hours, 1), 0)',
    'ifnull(round(subqueryP.hours, 1), 0)',
    'ifnull(round(subqueryW.hours, 1), 0)',
    'ifnull(round(totals.hours, 1), 0)',
    'ifnull(round(subqueryL.sessions, 0), 0)',
    'ifnull(round(subqueryC.sessions, 0), 0)',
    'ifnull(round(subqueryP.sessions, 0), 0)',
    'ifnull(round(subqueryW.sessions, 0), 0)',
    'ifnull(round(totals.sessions, 0), 0)',
    'ifnull(round(subqueryR.numjobs, 0), 0)',
    'ifnull(round(subqueryE.numjobs, 0), 0)',
    'ifnull(round(subqueryS.numjobs, 0), 0)',
    'ifnull(round(subqueryA.numjobs, 0), 0)',
    'ifnull(round(subqueryO.numjobs, 0), 0)'
);
```

Note: The round() function controls how many decimal places the value is rounded to and the ifnull() will display 0 if the value is empty.

5. Finally add the columns to the FROM clause:

```
// build the FROM clause

// grouping job type as follows:
// L - Lectures
// C - JC, PBL, Discuss
// P - Projects
// S - Safety
// E - Examining
// A - Administration
// O - Outreach
// W - Web-based Teaching

$all_from = " people_$yearval as p ". /*inner joins follow */
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type in ('L','C','P','W') and
deleted = false group by uname) as totals on p.uname = totals.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='L' and deleted = false
group by uname) as subqueryL on totals.uname = subqueryL.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='P' and deleted = false
group by uname) as subqueryP on totals.uname = subqueryP.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='C' and deleted = false
group by uname) as subqueryC on totals.uname = subqueryC.uname ".
```

```
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='R' and deleted = false
group by uname) as subqueryR on totals.uname = subqueryR.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='S' and deleted = false
group by uname) as subqueryS on totals.uname = subqueryS.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='E' and deleted = false
group by uname) as subqueryE on totals.uname = subqueryE.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='A' and deleted = false
group by uname) as subqueryA on totals.uname = subqueryA.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='O' and deleted = false
group by uname) as subqueryO on totals.uname = subqueryO.uname ".
" left join (select uname, sum(hours) as hours, sum(sessions) as sessions,
count(*) as numjobs from jobs_$yearval where type='W' and deleted = false
group by uname) as subqueryW on totals.uname = subqueryW.uname ";
```

6. It is a good idea to double check all the line endings at this point ( commas and semicolons) !
7. If there is a total column, you may (depending on requirements) need to add the new type to this column. This example shows type 'W' being added into the total column.

```
$all_from = " people_$yearval as p ". /*inner joins follow */
" left join (select uname, sum(hours) as hours, sum(sessions) as
sessions, count(*) as numjobs from jobs_$yearval where type in
('L','C','P','W'))...
```

Accompanying change for tooltips array:

```
$titles = array( 'Unique name of person',
                'Hours spent lecturing',
                'Hours spent in classes',
                'Hours spent in practicals',
                'Hours spent in web-based teaching',
                'TOTAL hours spent on Teaching (Lecturing, Classes,
Projects, Web-based)',...
```

8. Now save the file and test out the changes.
9. If things don't work:
  - Check all the line endings again
  - Check your spellings

**Note on the SQL Query :**

These segments of the query are used to form the overall query which is of the form:

```
SELECT p.uname, subqueryL.hours .... subqueryL.sessions ..
FROM people_<year> as p,
LEFT JOIN ( SELECT uname, sum(hours) as hours, sum(sessions) as sessions from jobs_<year>
WHERE type = 'L' GROUP by uname)
AS subqueryL on p.uname = subqueryL.uname
LEFT JOIN ...
```

The Left Joins are used to form the appropriate totals grouped for each type that are needed for each line of the result set.

## 5 Miscellaneous Code Changes

The following possible improvements may need some changes to implement. These are detailed below:

### 5.1 Saturday Lectures

This is only applicable to departments that use the Timetabling feature.

The assumed setting is for Monday to Friday Lectures which makes sure there are no entries for Saturdays on the Timetable. Saturday lectures can be added with a two line code change:

1. Open `timetable_functions.inc` in a suitable editor.
2. Search for the following array:

```
// days of week on which lectures are given
$days_of_week = array('M', 'Tu', 'W', 'Th', 'F');
```

3. Add 'S' for Saturday:

```
$days_of_week = array('M', 'Tu', 'W', 'Th', 'F', 'S');
```

4. Search for the following code block, which links possible variant entries with the standard short day abbreviation:

```
function ReFormatTimeslot($input)
{
// ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
// day map lists
$day_map = array(
    'M' => array('M', 'MON', 'MDY', 'MDAY', 'MONDAY', 'MODAY'),
    'Tu' => array('T', 'TU', 'TUE', 'TUES', 'TUESDAY'),
    'W' => array('W', 'WED', 'WDN', 'WE', 'WEDS', 'WEDNESDAY', 'WDY'),
    'Th' => array('TH', 'THS', 'THURS', 'THDAY', 'THURSDAY', 'THRUSDAY'),
    'F' => array('F', 'FRI', 'FDAY', 'FRIDAY'),
    'S' => array('S', 'SAT', 'SDAY', 'SATURDAY'),
);
```

5. Make sure it includes an entry for 'S'.

### 5.2 Correct Groups

This only applies where you are using both subject Groups and course Units together with Units which may contain jobs which have different groups.

[Note: Engineering was the only department during the lifetime of this project that this applied to. No change will be needed in the Generic version of TODB.]

In this case the 'Subj Group' column on View Units would be entered as a list of groups used for jobs in this unit. The column entitled 'Correct Groups' is calculated to include any groups for jobs in this course unit which are not listed in the 'Subj Group' column.

e.g. There is a Unit ESD with Subject Groups 'A' and 'D' (Subj Group entered as 'AD') . Clicking on ESD to see all the constituent jobs also shows jobs of type 'E'. The 'Correct Groups' column would display 'E'.

To make this work in other departments you will need to make changes to `view_units.php`, `table_functions.inc` and `config/units.inc` as shown below:

1. Open `view_units.php` in a suitable editor
2. Amend the Where clauses to ignore deleted jobs

```

if ($_POST['update'] == 'All') {
    $unit_query_where = " WHERE ((units_.$yearval.".deleted = FALSE) &&
(jobs_.$yearval.".deleted = FALSE))";
    $querydesc = 'All';
}
elseif ($_POST['update'] == 'Deleted') {
    $unit_query_where = " WHERE ((units_.$yearval.".deleted = TRUE) &&
(jobs_.$yearval.".deleted = FALSE))";
    $querydesc = 'Deleted';
}
/* MJ, Dec 08. Was:
elseif (strpbrk($_POST['update'], 'ABCDEFGM')) {
    $unit_query_where = " WHERE ((units_.$yearval.".deleted = FALSE) &&
instr(sgrps, '".
    $_POST['update'].
    "'))";
now:
*/
elseif (strpbrk($_POST['update'], $allgroups)) {
    $unit_query_where = " WHERE ((units_.$yearval.".deleted = FALSE) &&
(jobs_.$yearval.".deleted = FALSE) && instr(sgrps, '".
    $_POST['update'].
    "'))";
    $querydesc = $querydesc = "for subject group " . $_POST['update'];
}
else {
    $unit_query_where = " WHERE ((units_.$yearval.".deleted = FALSE) &&
(jobs_.$yearval.".deleted = FALSE))";
}

```

3. Replace the unit query as shown:

```

/* Each Unit has associated Group(s)/Division(s)
* The Unit may have jobs associated with it that are associated with
Groups that are not already linked to the unit
* We want to find these and show them in another column - othergroups
* The GROUP_CONCAT is making a list (with no separator - \ are Escape
chars) of any prgroups for the associated jobs
* that are not already in sgrps. The LEFT join uses straight equality as
an earlier use of INSTR was picking up 5R13, 5R14 along with 5R1.
*/

$unit_query = "SELECT units_.$yearval.*,
(GROUP_CONCAT(DISTINCT (if ((LOCATE(prgroup, sgrps)
= 0), prgroup, '\\\\")) SEPARATOR '\\\\")) AS othergroups
FROM units_.$yearval."
LEFT JOIN jobs_.$yearval."

```

```

        ON (jobs_".$yearval.".paper = units_".$yearval.".uname)"
        .unit_query_where."
    GROUP BY id
    ORDER BY ordering";

```

4. Open `table_functions.inc` in a suitable editor:
5. Search for `$column_comments` array and add the following below to set tooltips for derived columns:

```

$column_comments = array();
    $tt_query = "select column_name, column_comment from columns where
table_name = '". $tablename. "' and table_schema =
'$database_name'";
    $tt_res = mysql_query($tt_query, $db_metadata);
    if (!$tt_res) error_log("Error getting column comments: table:
$tablename; year: $yearval; schema: $database_name;Query is:# $tt_query
#".mysql_error($db_metadata));
    else
    {
        while ($row = mysql_fetch_array($tt_res))
        {
            $column_comments[$row[0]] = $row[1];
        }
        mysql_free_result($tt_res);

        // Add in comments for columns derived not stored AEC 25 03 10
        $column_comments[othergroups] = "Subject Groups relating to jobs in
this Unit that are not included in the Subj Group entry";
        $column_comments[sum] = "Total points from jobs allocated to this
person";
    }

```

Note: this also provides a tooltip for the Points column on View People

6. Open `config/units.inc`
7. Rename 'ignorewronggroups' to 'othergroups' for the administrator view, remove this field from pop-up box and adjust pop-up box widths to match:

```

$unititems = array ("id", "uname", "course", "ordering", "sgrps", "name",
"assessmode", "running", "global", "note", "updatetime");

// $adminunitcols is a list of all the columns that should be shown to an
// administrative user in edit mode

$adminunitcols = array ("uname", "course", "ordering", "sgrps",
"othergroups", "name", "assessmode", "running", "global", "note",
"updatetime");

$updateableadminunitcols = array ("uname", "course", "ordering", "sgrps",
"name", "assessmode", "running", "global", "note");

// $adminunitcolshdr are the strings for the header line in edit mode

$adminunitcolshdr = array ("Paper/Unit", "Course", "Order", "Subj Grps",
"Other Groups", "Full Name", "Mode", "Running", "Global Interest", "Note",
"Last updated");

```

```
$updateableadminunitcolshdr = array ("Paper/Unit", "Course", "Order",
"Subj Grps", "Full Name", "Mode", "Running", "Global Interest", "Note");

// $adminunitcolwidths are the widths for the fields in the unit editing
form

$adminunitcolwidths = array (6, 5, 5, 8, 40, 8, 1, 1, 30);
```

This provides a more meaningful column header.

## 6 List of Code in TODB

The greyed out items are things that seem to be non-essential.

| Item                   | Used By                     | Comment                                                                                       |
|------------------------|-----------------------------|-----------------------------------------------------------------------------------------------|
| Calculator-1-16x16.png | Addjob.php<br>Job_popup.php | Calculator image used when adding points in pop-up                                            |
| Calculator-1-32x32.png | Addjob.php<br>Job_popup.php | Calculator image used when adding points in pop-up                                            |
| ViewGeneric.php        | Index.php                   | Form to display Generic Operations on index page                                              |
| ac_files directory     |                             | Library javascript functions for autocomplete (ac) used in jobs popup for name autocompletion |
| addjob.php             | View_jobs_java.inc          | Run to gather and submit job data                                                             |
| addperson.php          | View_people_java.inc        | Run to gather and submit people data                                                          |
| addunit.php            | View_units_java.inc         | Run to gather and submit unit data                                                            |
| auth.inc               | Part of 'template'          | Authenticate user and see if they are 'special'                                               |
| build_jobs_select.php  | View_jobs.php               | Run to do Special Filter stuff                                                                |
| checkbox_all_js.inc    |                             | NOT USED                                                                                      |

|                                                                                                                                                                                         |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| common1.inc                                                                                                                                                                             | Part of 'template'                                 | <p>Performs any actions from previous POST:</p> <p>Go HOME if required</p> <p>Find out which year we are dealing with</p> <p>Check demo and flux users are following rules</p> <p>See if we are Editing and set/unset locks appropriately</p> <p><i>CLIENT: Successful clicking of the Edit button uses Javascript to put table into selection mode and generate pop-up box for editing when a line is selected.</i></p> <p>If Add/Update:<br/>             UPDATE database if Id exists (unless duplicate required)<br/>             ADD if new Id or duplicate</p> <p>If PurgeDeleted:<br/>             DELETE those marked as deleted</p> |
| common2.inc                                                                                                                                                                             | Part of 'template'                                 | Generate the line with the HOME button with appropriate Edit button                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| config/<br>config.inc<br>db.inc<br><br>db_tmp.inc<br>cbnew.inc<br>footer.inc<br>header.inc<br>index.inc<br>jobs.inc<br>new_years.inc<br>people.inc<br>top.inc<br>units.inc<br>years.inc | Lots                                               | <p>Configuration files</p> <p>Main one</p> <p>Database stuff. The installation script dbsetup.php will create its own version of this file and overwrite the original</p> <p>Copy of db.inc – for backup purposes</p> <p>Not used ?</p> <p>Page footer</p> <p>CSS Styles</p> <p>Grid of links</p> <p>Settings for jobs</p> <p>Controls data copied to a new year</p> <p>Settings for people</p> <p>Page header</p> <p>Settings for units</p> <p>Accesses years</p>                                                                                                                                                                           |
| config_eng.inc                                                                                                                                                                          | REDUNDANT                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| csv_jobs.php                                                                                                                                                                            | view_jobs_jbs.php<br>view_quotas.php               | No longer used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| csv_jobs_new.inc                                                                                                                                                                        | view_jobs_jbs.php                                  | No longer used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| csv_people.php                                                                                                                                                                          | Was used by view_people                            | No longer used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| csvhdr.inc                                                                                                                                                                              | csv_jobs_new.inc<br>csv_jobs.php<br>csv_people.php | No longer used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| csvhdr_redir.inc                                                                                                                                                                        | Was in job_table.inc                               | No longer used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                      |                                                     |                                                                                                                                                                                                                                                                                   |
|----------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dbconnect.inc        | Db.inc                                              | Functions to access the database                                                                                                                                                                                                                                                  |
| dbsetup.php          | Installation process                                | Creates the database and tables<br>See Installation Guide                                                                                                                                                                                                                         |
| images               | DIRECTORY for images                                | e.g. University Banner                                                                                                                                                                                                                                                            |
| index.php            | VITAL                                               | Drives the 'front page'                                                                                                                                                                                                                                                           |
| job_popup.php        | view_jobs_java.inc                                  | Used to render the contents of the job pop-up box                                                                                                                                                                                                                                 |
| job_table.inc        | Lots                                                | Used pretty much everywhere for jobs as 'glue' before using generic ShowGeneralTable function.                                                                                                                                                                                    |
| js_PointsCalc.php    | addjob.php<br>job_popup.php                         | Used to run the Points Calculator form.                                                                                                                                                                                                                                           |
| locks.inc            | Lots                                                | Locking functions                                                                                                                                                                                                                                                                 |
| notauthd.php         | Common1.inc                                         | Only now appears to be used for demo_users. Tells demo user they can only view Jobs                                                                                                                                                                                               |
| notyet.php           | Common1.inc                                         | Tells user they can't see data as it is 'in flux'                                                                                                                                                                                                                                 |
| other_duties.php     | View_People Optional                                | Used to lookup duties in other department                                                                                                                                                                                                                                         |
| people_table.inc     | View_people<br>View_quotas                          | Used for people as 'glue' before using generic ShowGeneralTable function.                                                                                                                                                                                                         |
| person_popup.php     | View_people_java                                    | Used to render the contents of the people pop-up box                                                                                                                                                                                                                              |
| points_breakdown.inc | View_people.php                                     | Displays Points Breakdown after table                                                                                                                                                                                                                                             |
| popup_form_state.inc | <table>_popup.php<br>Add<table>.php                 | Its purpose is to hoover up the state of the main form within the page that called the popup, so that the popup can stash it in its own form, entirely as hidden inputs, for resubmission to the main page                                                                        |
| requirements.php     | DEVELOPMENT TOOL                                    | <ol style="list-style-type: none"> <li>1. Read a series of files, looking for all required includes, and displays the heirarchy of includes.</li> <li>2. It can also recursively search these for a particular included file, in order to show which files include it.</li> </ol> |
| resize_popup.inc     | <table>_popup.php                                   | Javascript to resize pop-up box                                                                                                                                                                                                                                                   |
| scroll_java.inc      | <table>_popup.php                                   | Browser tailored functions to get x and y scroll positions                                                                                                                                                                                                                        |
| simple_table_io.inc  | View_points_formulae.php<br>View_student_counts.php | THESE ARE USED FOR ENGINEERING AND NOT MANY OTHER DEPARTMENTS<br>Contains functions to allow the programmer to display a table for view/editing in a simple HTML kind of way, by configuring a PageDisplayConfig object, and passing it as a parameter to the ViewPage function.  |

|                                     |                                                             |                                                                                                                                                           |
|-------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| SQL/                                | SQL scripts                                                 |                                                                                                                                                           |
| Create_TODB_tables.sql              | Dbsetup – automatic DB setup                                | To create empty tables                                                                                                                                    |
| Create_TODB_tables_2009_10_data.sql |                                                             | Can be used to create tables with test data                                                                                                               |
| Create_TODB_users.sql               | Manual DB Setup only                                        | Adds database users.                                                                                                                                      |
| static_csv                          | DIRECTORY FOR CSV output                                    |                                                                                                                                                           |
| styles                              | DIRECTORY FOR CSS                                           |                                                                                                                                                           |
| table_functions.inc                 | Lots                                                        | SEE SECTION 6.1.2                                                                                                                                         |
| test_csv.php                        | Installation Process                                        | Tests csv directory is writable                                                                                                                           |
| test_html.html                      | Installation Process                                        | TODB Test Wizard links to other tests                                                                                                                     |
| test_js.html                        | Installation Process                                        | Tests Javascript works                                                                                                                                    |
| test_mysql.php                      | Installation Process                                        | Tests MySQL with PHP                                                                                                                                      |
| test_php.php                        | Installation Process                                        | Tests PHP installation                                                                                                                                    |
| test_tables.php                     | Installation Process                                        | Tests MySQL tables                                                                                                                                        |
| timetable_functions.inc             | View_people.php<br>View_timetable.php<br>Optional           | Functions for producing Timetabling Displays                                                                                                              |
| TODB_Raven_User.txt                 | Common1.inc. Optional                                       | May be used to hold a list used by Apache to authenticate users. Where used this list is updated whenever people are added or removed from TODB database. |
| todo.php                            | Trunk only                                                  | Just a TODO List                                                                                                                                          |
| unit_popup.php                      | View_units_java.inc                                         | Used to render the contents of the units pop-up box                                                                                                       |
| units_job_table.inc                 | View_units.php                                              | Used to show Units in Table<br>Actually sets up units query then uses Job_table.inc to do the display                                                     |
| units_table.inc                     | View_units.php                                              | Used for units as 'glue' before using generic ShowGeneralTable function.                                                                                  |
| useful.inc                          | Part of 'template'                                          | Various functions see 6.1.1                                                                                                                               |
| variable_listing.php                | DEVELOPMENT TOOL                                            | This software parses a PHP file and identifies all variables used:                                                                                        |
| view_faculty_summary.php            | Linked from Index. Optional                                 | Produces totals by job type                                                                                                                               |
| view_jobs.php                       | Linked from Index                                           | Used to view and edit jobs                                                                                                                                |
| view_jobs_java.inc                  | Lots                                                        | Javascript for popup editing of jobs                                                                                                                      |
| view_jobs_jbs.php                   | NOT USED                                                    |                                                                                                                                                           |
| view_jobs_special.inc               | View_jobs.php                                               | Builds the query and associated description for Special Filter options                                                                                    |
| view_my_jobs.php                    | Linked from Index and from View_people,<br>other_duties.php | 'Glue' before using view_people.php to display jobs for this person and supply forms for them to confirm or send a message to the Teaching Office         |
| view_new_year.php                   | Linked from Index                                           | Add and remove years. Set current year. Set/unset year in flux.                                                                                           |
| view_people.php                     | Linked from Index                                           | Used to view and edit people                                                                                                                              |
| view_people_java.inc                | Lots                                                        | Javascript for popup editing of people                                                                                                                    |
| view_points_formulae.php            | Linked from Index.<br>Optional                              |                                                                                                                                                           |

|                          |                                     |                                                                    |
|--------------------------|-------------------------------------|--------------------------------------------------------------------|
| view_quotas.php          | Linked from Index. Optional         |                                                                    |
| view_related_jobs.php    | Table_functions.decorate()          | Not used                                                           |
| view_student_counts.php  | Linked from Index. Optional         | View and edit student counts. Form to allow them to be pasted in   |
| view_summary.php         | Linked from Index. Optional         | View Teaching Allocation Summary                                   |
| view_timetable.php       | Index.php Optional                  | Special page developed for Vet School                              |
| view_ujobs.php           | Linked from Index. Optional         | View Jobs by Unit                                                  |
| view_ujobs_printable.php | View_ujobs.php. Optional            | A printable version of the above                                   |
| view_units.php           | Linked from Index                   | Used to view and manage units                                      |
| view_units_java.inc      | Lots                                | Javascript for popup editing of units                              |
| viewmyjobs.inc           | View_people.php<br>other_duties.php | Forms for user to confirm or send a message to the Teaching Office |

### 6.1.1 Functions in Useful.inc

| Function                                            | Purpose                                                                                                  |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| post_exists(\$key)                                  | Test if the key value is set in the POST form data                                                       |
| post_match(\$key, \$match)                          | Test if the key value is set in the POST form data and matches \$match                                   |
| post_nomatch(\$key, \$match)                        | Test if the key value is set in the POST form data and doesn't match \$match                             |
| post_ncmp(\$key, \$match, \$len)                    | Test if the key value is set in the POST form data and matches \$len characters of \$match               |
| get_exists(\$key)                                   | Test if the key value is set in the GET form data                                                        |
| qfix(\$dat)                                         | ?Fix a SQL query by adding slashes before characters that need to be escaped                             |
| crs2eng(\$crsid)                                    | Engineering Specific                                                                                     |
| ShowTable(\$conn, \$query, \$classname)             | This function takes an SQL query and shows an HTML table of it. More recent code uses ShowGeneralTable() |
| GetFormulaeList(\$yearval)                          | Get appropriate list of formulae for year from DB                                                        |
| InsertCSVApparatus()                                | A function to display a CSV button and also respond if it was pressed.                                   |
| CloseCSVFile()                                      | Close CSV file and give link to file                                                                     |
| WriteQueryToCSVFile(\$resultset, \$csv_file_handle) | Take a MySQL resultset and write it to the specified file handle                                         |
| GetArrayValue(\$array_arr, \$element)               | Get the array value for the passed element                                                               |

### 6.1.2 Functions in TableFunctions.inc

| Function                         | Purpose                                                                                        |
|----------------------------------|------------------------------------------------------------------------------------------------|
| ShowGeneralTable (\$isadminuser, | Generic Function for displaying a table of information (replaces job_table, people_table, etc) |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>\$adminwantstoedit,<br/>         \$firstheader,<br/>         \$admin_col_hdrs,<br/>         \$result,<br/>         \$admin_cols,<br/>         \$items,<br/>         \$showemail,<br/>         \$cols_hdrs,<br/>         \$csvmode,<br/>         \$csv_file_handle,<br/>         \$cols,<br/>         \$button_cols,<br/>         \$show_quotas,<br/>         &amp;\$linecount,<br/>         &amp;\$points_sum,<br/>         &amp;\$quota_sum)</p> |                                                                                                                                                                 |
| <p>editable_entry(\$line, \$item,<br/>         \$array_items, \$showemail)</p>                                                                                                                                                                                                                                                                                                                                                                       | <p>Sets line to editable mode</p>                                                                                                                               |
| <p>decorate(\$line, \$item,<br/>         \$csvmode)</p>                                                                                                                                                                                                                                                                                                                                                                                              | <p>Determines if particular entries get highlighted,<br/>         boldified, italicised, or whatever, based on column and sometimes<br/>         on content</p> |
| <p>per_person_count(\$line,<br/>         \$numcols)</p>                                                                                                                                                                                                                                                                                                                                                                                              | <p>Prints a summary including past year's data</p>                                                                                                              |

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